GOVERNMENT OF INDIA
SCIENCE AND TECHNOLOGY
LOK SABHA

UNSTARRED QUESTION NO:1973
ANSWERED ON:23.07.2014
SHIFTING OF HIMALAYAN GLACIERS
Patel Shri Prahlad Singh

Will the Minister of SCIENCE AND TECHNOLOGY be pleased to state:

(a) whether glaciers in Himalayan region are shifting at varying rates in different regions;

(b) if so, the details thereof and the reasons therefor;

(c) whether the Government has conducted any study in this regard including its effect on climate change; and

(d) if so, the findings thereof?

Answer

MINISTER OF STATE (INDEPENDENT CHARGE) OF THE MINISTRY OF SCIENCE AND TECHNOLOGY; MINISTER OF STATE (INDEPENDENT CHARGE) OF THE MINISTRY OF EARTH SCIENCES; MINISTER OF STATE IN THE PRIME MINISTER`S OFFICE; AND MINISTER OF STATE IN THE MINISTRY OF PERSONNEL, PUBLIC GRIEVANCES AND PENSIONS; (DR. J1TENDRA SINGH)

(a) & (b): Yes Madam. The Himalayan glaciers are shifting at varying rates in different regions. Shifting of glaciers is a natural phenomenon, governed by the climate in the form of retreat and advance. Studies carried out by various organizations and Universities in the Himalayas so far have revealed that the Himalayan glaciers are retreating in general but the rate of melting/recession varies from glacier to glacier depending on its topography and climatic variability of the region. However, the glaciers in the eastern and central part of Indian Himalayas are continuously retreating whereas some of the glaciers in Western part of the Himalayas are reported to be advancing. The varying rate of recession can be attributed to several factors including altitude, orientation, size, shape, valley configuration etc, of glaciers besides changing climate which is a global phenomenon.

(c) & (d): The Department of Science and Technology has identified a few bench mark glaciers for continuous monitoring to understand the dynamics of glaciers, including the effect on climate variability in the Himalayan region.

Efforts are underway for regular monitoring of glacier dynamics, snow and glacier melting, geometrical changes and climate studies on the Himalayan glaciers. A Number of glaciers have already been taken up for long term measurements on glacier-climate interaction in the different part of Indian Himalaya by several Government agencies like Wadia Institute of Himalayan Geology (WIHG), Geological Survey of India (GSI), Space Application Centre (SAC), Snow and Avalanche study Establishment (SASE) and many other Institutions, Universities etc. under the Himalayan Glaciological Programme sponsored by the DST, Government of India.

The study done so far shows that Himalayan glaciers are melting/shifting, although the rate, amount and patterns differs in individual glaciers due to the orographic and climatic variability. The Wadia Institute of Himalayan Geology has set up a number of Automatic Weather Stations (AWS) to collect real time weather parameter data at different altitudes in the glacierised areas of the Himalaya to assist and evaluate the climate change and its impact on the glacier and snow cover regimes. The effect of global warming/climate change on the Himalayan glaciers requires a close watch, however, the present data is not indicative of any alarming situation in the foreseeable future.